Institutionalizing planning, enactment and reflection of daily lessons through appropriate organizational restructuring

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This study describes a professional development program aimed at supporting para-teachers in an Indian educational NGO to adopt learner-centered approaches. Organizational factors inhibiting para-teacher learning were modified. A routine of lesson planning before, and reflection after daily enactment were introduced. This routine was supported through workshops, microteaching and coaching activities. Interviews and lesson plan reviews reflected what professional competencies were gained through the professional development experience. Interviews also helped to understand what role organizational changes played to help institutionalize the professional development activities. The study concluded that although para-teachers did not previously plan lessons, they had acquired the knowledge and skills for well-structured learner-centered oriented lesson planning. As compared to the pre-professional development time, when enactment was ill-structured and rote-based, a shift towards better-structured and learner-centered orientation was apparent. Para-teachers felt confident; felt able to plan work efficiently towards creating time for lesson-preparation; and experienced greater capacity to support their own learning and collaborate with peers. Organizational changes demonstrated that the management was supportive of the para-teacher concerns. Heads Supervisors of para-teachers, as new coaches within modified organizational conditions, reported that their learning about how to coach improved with experience, which shows that their learning grew alongside para-teacher learning.

INTRODUCTION

In developing countries, NGOs play important roles in delivering education, especially to disadvantaged populations. The UN millennium development goal of 'education for all' commits governments to collaborate with NGOs in developing and disseminating educational innovations. NGOs are under pressure to step out of the charity mode, and professionalize the way they function, especially with the training of their para-educators who they recruit as grassroots workers. Studies acknowledge that para-educators are valuable for their commitment, insider insights and ability to relate to the unique needs of children in difficult circumstances (Desai, 2003; Pandey, 2006). However, concerns exist about the lack of basic education and professional teacher training of the para-educators, which threatens to dilute the quality of teaching learning. Increasingly, calls are being made for the professional development of para-educators in India (Jagannathan, 2000) and elsewhere. Yet, the research-base for designing professional development for para-educators is limited.

This article speaks to the limited research-base by describing a professional development program for para-teachers in an Indian educational NGO, through which participants systematically plan and enact learner-centered lessons. The professional development (PD) program described in this paper, was in its second phase; the first phase having been a pilot in which new on-the-job professional development strategies were introduced for para-teacher learning, under review). Based on lessons learned from the pilot phase, the second phase, described here, aimed at modifying essential organizational policies and

practices necessary for the professional development strategies to become institutionalized and thereby sustained within the organization. Data were collected to: (1) investigate what professional competencies were gained through the professional development support; and (2) ascertain the role organizational changes played in supporting the institutionalization of the professional development process.

CONCEPTUAL MODEL

The professional development program was based on the conceptual model depicted in Figure 1. This model (extensively discussed in Raval, McKenney & Pieters, accepted for publication) depicts three core activities that, together, form a cycle. In addition, specific supportive strategies are employed to strengthen each of the core activities. The core activities and supportive strategies operate within an organizational context which, depending on the situation at hand, can foster or inhibit the execution of these processes.

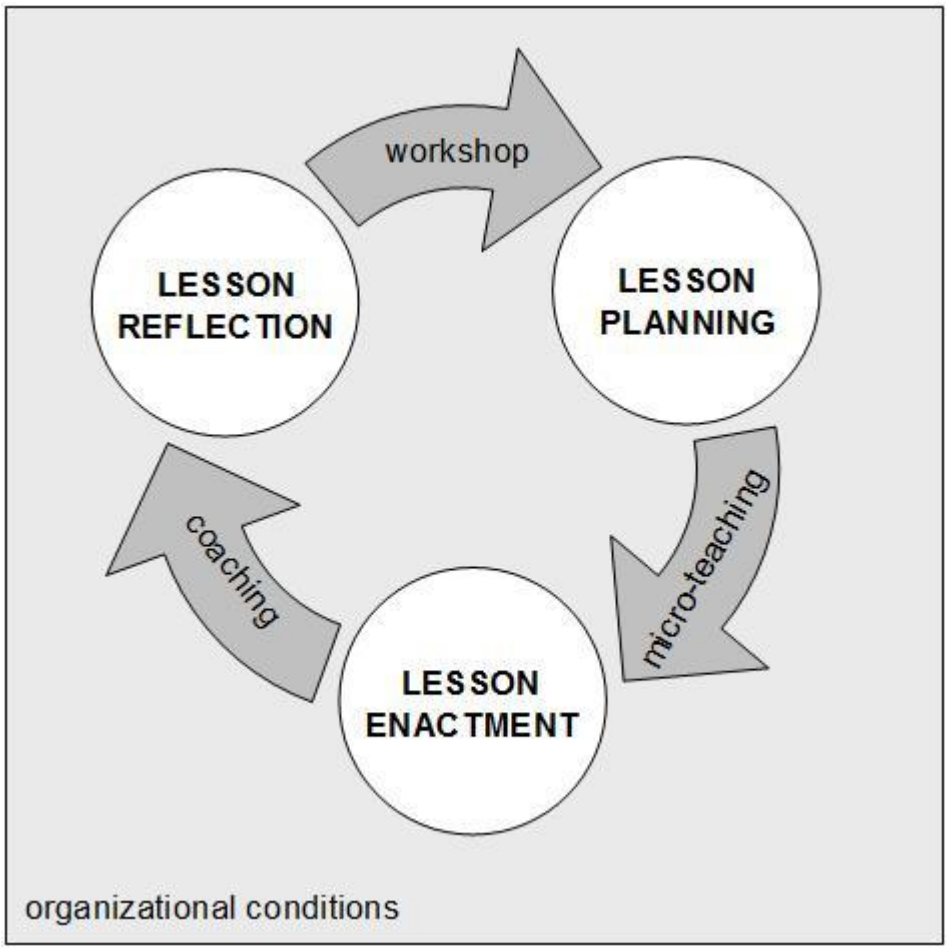

Figure1: Plan-enact-reflect activities and supportive strategies

The core activities to be undertaken daily are: lesson planning, lesson enactment and lesson reflection. Together, these three activities, when embedded into the daily work

routine of para-teachers, can prove to be concrete and effective ways of integrating learning with work. Additionally, the core activities help structure collaboration around daily work questions. They also empower teachers to influence their own learning by defining and solving daily instructional problems. Both collaborative relationships and empowerment are viewed as critical for teacher learning (King, 2001).While acts of planning, enacting and reflecting have the potential to serve as learning opportunities, they are rarely learning activities on their own. Rather, supportive strategies must be employed to bring out the learning from these activities. The model also includes supportive strategies to serve the learning function. Workshops, micro-teaching and coaching relate directly to specific elements within the plan-enact-reflect cycle; and the creation of appropriate organizational conditions affects the ability of the cycle itself to function properly.

The supportive elements of the model are termed so to suggest that they should be developed not in isolation but with the objective to support and improve the process of planning, enactment and reflection undertaken by the para-teachers. Each supportive strategy could be used to reinforce one or more aspects of the core cycle. In the model, workshops play the specific role of supporting para-teachers in understanding how to develop learner-centered lesson plans. Lesson enactment is supported by micro-teaching sessions in which para-teachers practice the enactment of their lesson plans within their teams. Coaching by peers and supervisors supports reflection on enactment. Finally, organizational conditions are required to allow core activities and supportive strategies to flourish. Considerations like releasing time for such activities and ensuring that non-teaching roles do not dominate the work of para-teachers and their supervisors are important for elements of the model to be successful in practice. The conceptual model discussed above was developed to incorporate specific contextual characteristics and was used to support the para-teachers in adopting learner-centered curriculum in an NGO called Maitri. The specific characteristics of the para-teachers in Maitri, and the organizational environment, for which this model was particularly suitable, are described in the section below.

CONTEXT

Maitri, based, in a city in western India with a population of about 4 million people, provides educational support to slum children through learning centers within their residential communities. Each center has a para-teacher recruited from the local area on a small honorarium, with qualifications ranging from 12^{th} grade to bachelor's degree. 30-40 centers are evenly distributed over 3 clusters, each run by a senior teacher called the cluster head. The cluster-heads report to a program-leader from the management team. Para-teachers do not have professional pre-service teacher training. Since 2000, the centers have been targeting public school children up to age 14 whose attainment levels in reading and basic math are very low. In 2005, with the objective of supporting these clusters towards becoming self-sustaining learner-centered community learning institutions, four transitions were introduced:

- Prior to 2005, educational services were free. After 2005, parents were required to pay a monthly fee of about 50 Indian Rupees (about $1.00 US) per child to ensure financial sustainability, accountability and community ownership of the centers.
- The instructional scope of the centers' activities was extended beyond teaching literacy and basic math, to address additional subjects including Gujarati (first language), English, Math, Science, History, Geography and Civics.
- Adoption of learner-centered material was mandated. A central curriculum design team created materials for all centers.
- Finally, each cluster was spun off to become an autonomous community-based organization (CBO), thus each cluster head became a CBO head and the teachers in the center, members of the respective CBOs. From this point, Maitri focused on facilitating the clusters to achieve self-sustainability.

Up to 2007, no specific professional development (PD) program was implemented to assist the changes in teaching and learning. In 2007, the management team mandated a needs and contexts analysis study in order to identify the learning requirements of the para-teachers. Another management-team member was appointed for this research study.

Needs analysis

The needs and context analysis identified several challenges that later influenced the PD program design (Raval, Mckenney, & Pieters, under review-a). These challenges related to para-teacher characteristics, their instructional setting, the organizational (cluster) setting and the policy influences.

Table 1: Contextual challenges identified during needs analysis

Para-teacher characteristics	1. Lack of basic teaching skills to make enactment well structured and coherent 2. Lack of learner-centered skills
Institutional characteristics (classroom composition; teaching strategies)	1. Large, heterogeneous classrooms with children from pre-school to grade 7 2. Older children with lower attainment levels than their actual grade-level curricular competencies would imply 3. Coping strategies involved inefficient individual teaching
Organizational characteristics (time and opportunity for professional learning; curricular framework; leadership)	1. 2-3 classes a day, marketing for collecting fees; no daily time to prepare for teaching 2. Professional support only in marketing strategies to increase fees 3. Lack of overall coherent curriculum to define 'what, when and how' to teach 4. Cluster head role only as administrator
Policy influences (mandates/strategies for enrolling students; curriculum expectations and academic term duration)	1. To enroll any child willing to pay fees towards fulfilling revenue targets for each month, and not based on learning requirements 2. To teach grade-specific curriculum to different students because of parental pressure, although their actual attainment was several grades lower 3. One academic term for three months, new children enrolled

	with each term 4. To enroll new children during a term to prevent losses in fee totals, leading to unstable student population

Pilot

Following this needs analysis which was conducted in March of 2007, a pilot of PD interventions was implemented during April and May (Raval, Mckenney & Pieters, under review-b). The design and implementation of the PD program was facilitated by the researcher (in consultation with the program-leader). The pilot aimed at supporting para-teachers in planning and enacting well-structured learner-centered lesson plans, introduced a daily routine through the core (plan-enact-reflect) activities described in the conceptual model, above. The aforementioned supportive strategies (workshop, micro-teaching and coaching) were also implemented to strengthen the core cycle. Lasting changes to the organizational context were minimal during the pilot, but supportive organizational conditions were still met. This is because the pilot took place during a summer vacation period, when para-teachers taught an optional subject of art for free. Since they taught only one class a day and did not have to collect fees, this was considered an ideal time to explore the potential of the PD activities. The formative evaluation led to three critical findings:

- Para-teachers valued the PD activities for their experiential and practical attributes; but suggested that the tool used for lesson planning should be shortened.
- Para-teachers acquired high proficiency in planning systematic lessons with learner-centered components
- Para-teacher perceptions of enactment reflected a shift towards more systematic and learner-centered practices.

The pilot program concluded that the core routine of planning, enactment and reflection activities had been successful in supporting para-teachers to gain proficiency in designing lessons that were well-structured and had a learner-centered orientation (c.f. Raval, McKenney, & Pieters, under review-b). The next section describes how after a successful pilot, the professional development program was carried forward to support the para-teachers during the course of the regular teaching term..

PROFESSIONAL DEVELOPMENT PROGRAM

The favorable outcomes of the pilot led the management to decide in favor of institutionalizing the professional development interventions so that para-teachers could gain ongoing support while teaching regular academic subjects. However, unlike the pilot period which was carried out during summer vacation, the regular term was marked by several contextual conditions (described in table 1) that could limit the feasibility of an effective professional development program. For example, para-teachers were expected to enroll any child who could pay fees and to teach grade specific curriculum demanded by fee-paying parents irrespective of the actual learning requirements of the student. This led to complicating conditions such as, a) very diverse student learning needs from preschool to grade 7 which para-teachers would find very daunting and difficult to plan for and implement; and b) pressure of teaching grade specific curriculum although students had much lower attainment levels which was pedagogically inappropriate and

not a condition that could be improved even with regular planning and reflection of lessons.
Likewise, if para-teachers had to teach so many classes in the day that they did not get time to prepare for daily enactment, it would be infeasible to implement the core daily routine.

Hence, as also indicated in the conceptual model, it was felt that without modifying some of the policies and practices of the organization, the resulting professional development program would not be feasible or effective. Thus substantial changes in the organizational conditions were introduced so that they led to a) more manageable and realistic classroom conditions for para-teachers, b) availability of time on a daily basis for professional learning work and c) well planned curricular objectives that were realistic for teachers to achieve. These changes were made through a decentralized decision-making process. In this process, cluster-heads and teachers worked together to develop new policies and organizational conditions that were conducive for improving classroom teaching. The active involvement of the cluster-heads in this process was also in itself a key change in organizational conditions as institutionalizing the professional development program would be infeasible without their ownership. Described below are some of the key organizational changes introduced with the help of the cluster-heads.

Cluster-heads lead the creation of a foundation for professional development
The changes in the organizational conditions were spearheaded by means of a workshop with cluster-heads which was held over a ten-day period. Together with teachers, the cluster-heads:

1) Identified policies which were detrimental to the teaching learning quality of the centers;
2) Modified planning and reflection tools based on the feedback from the pilot activities and also designed new tools for para-teacher learning; and
3) Developed planning and reflection tools that they, themselves, could use to strengthen their own abilities to support the centers as cluster-heads.

Thereafter, the cluster-heads made several changes to the policies, and thereby the organizational conditions, in consultation with the teachers and the program-head. The researcher facilitated this process. The cluster-heads made the following decisions:

1) Narrowed program objective: Keeping in mind the teachers' current capacities, the centers would aim to teach only students who needed remedial help up to grade 4;
2) Increased time duration: In order to increase the contact between teachers and students, each academic term would be for 6 months;
3) Stabilized pupil population: For a stable class, students would enroll in the beginning of the term only, even if students dropped out, and the fees dropped;
4) Realistic and well-planned curricular targets :The teachers would set learning objectives for students based on actual learning needs and the cluster-heads would support teachers in both setting realistic learning targets and communicating these to parents;

5) Reduced class size: An assistant teacher would be added for the preschool children, and the para-teachers would only work with the older children for a maximum of two classes a day;
6) Reduced heterogeneity: The set of older students would be classified into a basic group needing basic reading and math skills and an advanced group; and
7) Systematic and efficient task planning: With the help of a task planning tool, para-teachers reallocate tasks to free time for daily lesson planning and reflection on week days and make community visits only on Saturdays.

Supported by these new organizational changes, the professional development program was then planned and implemented and is described as under.

Professional development interventions supported by new organizational conditions

Core activities that involved lesson planning, enactment, and reflection of daily lessons were planned. Support for lesson planning and enactment was planned in terms of a) a two-week self-study period prior to the commencement of the classes which would allow the para-teachers to study the material to be taught in the next months, jointly design lesson plans, as well as engage in micro-teaching sessions to practice the lesson plans. Additionally, an instructional workshop under expert guidance was also planeed to help para-teachers in developing and enacting lesson plans for for topics they had found difficult during the self study period. Coaching support by the cluster-head for supporting daily reflection was also planned. A weekly reflection activity facilitated by the cluster head was also introduced at each cluster level. Throughout implementation of the professional development program, heads of each cluster met once a week with the facilitator, sharing implementation problems, and also receiving feedback from the facilitator on their coaching approach. The table below provides a description of the PD interventions.

Table 2: Description of the PD program

Core Activities	Content	Material	Attributes
Planning	Grouping : Foundation and advanced groups	Template	Differentiation instead of individual teaching
	Planning learning targets : Long and short term objectives; daily time table	Templates	Focus on actual learning needs of students instead of ad hoc choices
	Daily lesson planning	New, shortened template; Teacher guides; subject matter books	Supported by template; individual / joint
Enactment	Relevant subject-matter teaching	Learning materials ; lesson plan	Supported by prior lesson preparation ; instead of spontaneous
Reflection	Daily reflection on experiences, problems, ideas.	Modified Template	Supported by templates ; individual / joint
	Weekly reflection on progress; problems, new plans.	Template (used by Cluster- head)	Group meeting Facilitated by cluster head
Supportive	Content	Material	Attributes

Strategies Workshop	Self-study workshop: Advance preparation of subject matter; practicing teaching strategies; preparing lesson plans for topics to be taught in the immediate term.	Subject-matter books, teacher guides, lesson plans	Focus on immediate topics 2 weeks before the term Individual / Joint study.
	Expert workshop : 6 sessions : Expert guidance on : lesson-design of difficult topics ; demonstration on enacting by expert/peers ; reflective discussion on enactment; modification of lesson plans based on discussion	Teacher guides; Planning and reflection templates	Focus on difficulties experienced during self study workshop Paired lesson planning Demonstrations in small groups Group reflection Expert guidance on content and process (e.g. on lesson plans as well as group work skills)
Micro teaching	Practice of teaching strategies based on lesson plan	Lesson Plans	Prior practice of enactment Peer feedback ; Modification of lesson plan
Coaching	Cluster-heads during enactment. Peers and cluster-heads during reflection and lesson planning	Planning templates (of cluster heads and teachers) Reflection templates of teachers	Focus on immediate learning from planning/enactment.

Tools used in the PD program

Para-teachers learnt how to design systematic learner-centered lesson-plans through a daily lesson planning activity. Daily planning was done using a template designed to help them 'think through' the different aspects that constitute a lesson plan. Teachers also used additional help of teacher guides that described learner-centered activities for different concepts. The template comprised simple yet detailed questions on different components within a lesson-plan. The questions were flexible so that participants could borrow ideas from the teacher guides as well as brainstorm on their own. Each question was aimed at helping them operationally plan the essential components of curriculum (cf. (Klein, 1991; van den Akker, 2003) in a learner-centered manner. Table 3 displays different components of a lesson plan included in the template and questions for each component. A tool was also developed for reflection activities of teachers. It contained the same items as the lesson planning tool, against which the para-teachers commented whether they were satisfied or dissatisfied with their enactment of each component, gave reasons and generated new ideas or suggestions.

A new role for cluster heads, focusing more on educational leadership than on administration, was deemed vital to the success of the professional development program. This new role was supported through self-designed templates that aided cluster-heads in using problem solving strategies to support teachers. The cluster-heads and their facilitator (and researcher) met weekly, where these templates were used to exchange ideas, share problems and get feedback on their role in supporting the para-teachers.

Table 3: Questions in the lesson planning template

Q.	Lesson Plan	Questions in the lesson plan

NO	components	
1	Grouping	Group the children in the class into foundation and advanced groups based on their baseline attainment in reading, writing and math. Write down the names of children who come in each of these groups.
2	Learning objective	For each of the groups what are the learning objectives for the day, what activity will you choose for that and how many sub groups are needed.
3	Learning activity, material and time	Write down the activity steps for each activity you are conducting for each of the group along with the material and time needed for each.
4	Teacher's role in facilitating learning in groups	You must explain the activity to the children in such a way that the children can carry out their task on their own in their group. Write down the specific steps / actions you will ask the children to do in detail in the right sequence while you are away.
5		For each of the activities, at what point should you go back to review the progress and how will you do that?
6	Teachers' role in fostering discipline.	While doing the activities what are the disciplinary rules children should observe that you will discuss with them. What kind of reinforcements can you use to sustain them that you will discuss with the children?
7	Conclusion	How will you verify what each group has learnt?

METHODS

As previously mentioned, this phase was undertaken to institutionalize the professional development program and explore its value during the regular school term. With those project goals in mind, this study investigated two main areas:

a) The first aim was to determine the effectiveness of the PD program, by ascertaining whether para-teachers had retained their ability to design systematic learner-centered lesson plans which they acquired during the pilot program; and whether their enactment reflected a shift towards being well-structured and learner-centered. As empowerment and collaborative working relationships are viewed as critical in professional development, examination of effectiveness therefore also includes exploration of other professional growth experiences of para-teachers besides those directly related to the plan-enact-reflect cycle.

b) The second aim related to a critical assessment of the institutionalization of the professional development program. As substantial changes were implemented, the study specifically investigated what role those changes to the organizational conditions played in the functioning of the PD activities.

The four research questions based on the above stated aims were,

- To what extent did participants' lesson planning reflect a systematic learner-centered approach?
- In what ways did the para-teachers' enactment reflect a well-structured learner-centered approach?
- What other kinds of professional development gains did participants experience?
- What role did the (changed) organizational conditions play in supporting and/or hindering the PD process?

Participants

Nine para-teachers, three from each of the clusters, were selected for the data collection, in consultation with the management team and the cluster-heads. Considering high recent turn-over, those para-teachers who were sure about continuing the current work for a longer duration, were selected. These para-teachers were informed about the goals of the study, according to the rules of the Ethical Committee of the University of Twente.

Procedure

Lesson planning skills were examined by means of self-reports through interviews and through document review of lesson-plans. Changes in enactment were verified during classroom observations and subsequently discussed through in-depth interviews. Perceptions about other professional growth experiences were gained through interviews with para-teachers and cluster-heads. Insights about what role the organizational changes had in the institutionalization of the PD activities came through interviews with para-teachers and cluster-heads. Table 4 reflects the data collection methods used for the different research questions.

Table 4: Mapping research questions with data collection methods

Research Questions	**Data Collection Methods**
To what extent did participants' lesson planning reflect a systematic learner-centered approach?	Participant Interviews Document Review
In what ways did the para-teachers' enactment reflect a well-structured learner-centered approach?	Participant Interviews Classroom Observation
What other kinds of professional development gains did participants experience?	Participant Interviews Cluster-head interviews
What role did the (changed) organizational conditions play in supporting and/or hindering the PD process?	Participant Interviews Cluster-head interviews

Analysis

Participant interview data were analyzed first. Predefined themes based on the research questions were used to categorize the data. Thereafter, analysis involved looking for new themes and recurring patterns of meaning (Merriam, 1998). Document review of lesson plans was done quantitatively. From the 20 lesson plans created during the four weeks, three from each week were selected at random, for a total of 12 lesson plans per person. Altogether 108 lesson plans were analyzed. In order to assess the extent to which each component of the lesson plan (table 3) was addressed systematically and with a learner-centered orientation; five parameters were developed. These were *completeness*, *accuracy, appropriateness and detail*, *internal consistency*, and *new ideas*. Answers to each question in the planning tool were coded according to these parameters. A code "y" was allotted when the response satisfied the parameter and "n" otherwise. Scores, based on percentages of "y" codes, were used to rank participant performance on each parameter and each question. Performance scores between 0 to 33 percent were considered low, 34 to 66 percent was considered moderate and scores above 66 percent were considered high. An inter-rater reliability score was calculated for the document review in which coding by 2 coders for 36 lesson plans, that is one third of the total 108

lesson plans were compared. The Kappa Coefficient was 0.86, reflecting strong inter-rater agreement.

A structured observation tool, containing sections and items related to basic teaching skills required for well structured enactment and a learner-centered environment was used for classroom observations. It comprised 39 items, divided across five main sections of 1) Preparation for the class, 2) Introduction of the main lesson, 3) Teachers' role in facilitating group activity, 4) Students' role in the group process, and 5) Conclusion of the lesson. Four observations were conducted for each participant, with a total of 36 observations over 4 weeks.

RESULTS

To what extent did participants' lesson planning reflect a systematic learner-centered approach?

In interviews, participants explained that this was the first time they had used intensive planning in teaching regular academic subjects. All participants reflected on their science teaching, in the pre-professional development period, and identified different lesson planning aspects that they had newly acquired through this period. Participants' expressed their thoughts about teaching as a "*step by step process*" which they were prepared with instead of, "going *to class and wondering what to do"*.

Participants discussed how they composed groups according to the students' current knowledge about a topic, instead of the inefficient individual teaching approach followed earlier. They also said they had learnt to choose appropriate learning tasks, according to the actual attainment level of the groups, rather than by allocating tasks randomly. The following excerpt shows that teachers developed an appreciation for ability grouping during lesson planning,

" This whole daily exercise of putting children's names in separate tables according to their baseline attainment and planning learning targets based on the baseline, now it's a habit. Earlier I did not plan like this, and would just start teaching any subject matter to any child based on his school syllabus, not paying attention to what his current level was"

The para-teachers also added that they had learnt to think carefully about the relevance of a learning activity for each group. They expressed this in many ways. For instance, one of them exclaimed,

"It gives me a lot of scope and it visualizes an activity in the way it should be adapted for my students."

While another elaborated,

"..Now with the help of lesson planning I have to keep the specific group of students in mind together with the activity, not treat the activity and the group in isolation".

Additionally, they explained that lesson planning had revealed to them the importance of considering the specific purpose of the different learning material and activities based on

learning objective. As one of them explained, *"earlier, I used to implement an activity, for instance, a visit to the garden, or distribute picture cards, but I was not conscious of the purpose of the material or activity, and so I simply completed the activity without helping students synthesize any concrete learning from it"* Talking about how she had learnt to match the group's learning needs with the material, one para-teacher explained, *"..Earlier we used to have all the material, and children with different levels, but we did not know which children should study together, and we also did not know which children the material could be used for. But now we can do it with the help of the planning activity"*

Participants also reported about planning for their role in facilitating the group activities. All of them explained that they could plan action points for themselves to oversee the group activities, instead of "*just forgetting about the group after allocating a task*." Participants also shared making sure that they planned how to review what students had learnt at the end of the day. *"... I don't just have to pick up one activity and finish it for the sake of it, but consider whether learning has been achieved or not , and if not have to adjust my daily time table, until children learn it".*

In addition to daily lesson planning, they discussed how they had learnt to plan a curriculum in a more systematic way in terms of quarterly and monthly learning targets and a daily time table. Most participants also shared that they learnt how to become more realistic in the daily planning. As an example one of them stated that because of the planned daily activity and actual daily activity,
"The tool allows me to compare if my planned activity and daily activity correspond. So I learnt how to plan more realistically."

Another shared that,
"In the first two weeks I just put a monthly and weekly target randomly, based on what I wanted to achieve in the class, and then planned activities per day, but after two weeks I realized that it was not happening, and I had to adjust my targets according to what was realistic to complete in one day. And not just daily work, we also have to plan according to holidays which take away working days"

Lesson plan reviews also indicated that for the first five parameters (Table 5), which were completeness, accuracy, appropriateness, detail and internal consistency, four participants (of which three were from cluster A) ranked in the high category, and three participants ranked either high or moderate for each of these categories. Only two participants ranked in the low category for the parameter of detailing the questions. Three participants ranked either high or moderate for these parameters. The only quality parameter in which no participant scored in the high category, and in fact most scored in the low category was 'new ideas'. This indicates that participants scored high on the parameters that explored the quality of adaptation of the ideas in the teacher guides, but ranked low on thinking outside of the teacher guides.

Table 5: Participant wise, ranking per parameter used for determining the quality of lesson planning

	Mean Percentage Scores per Parameter						
Parameters	**Clusters**	**Complete**	**Accurate**	**Legitimate**	**Detailing**	**Internal Consistency**	**New Ideas**
Meera	A	89	85	89	87	60	23
Harsha	A	100	98	100	87	83	52
Varuna	A	95	90	93	75	81	35
Sarojini	B	57	56	46	12	42	2
Avnita	B	89	85	89	87	60	23
Shubhlaxmi	B	80	73	85	48	67	28
Mital	C	100	86	93	62	82	32
Chanda	C	86	67	62	30	47	5
Sanjana	C	94%	81%	80%	49%	64%	18%

(Ranking: dark grey = high, medium grey = moderate, light grey = low)

Table 6 indicates that all participants got a high or moderate overall score on lesson planning. Their scores for individual questions also reflected that, for question 1, which dealt with grouping, all participants ranked high. On questions 3 (learning activity), 5 (facilitating the group activity through ongoing review) and 7 (conclusion), all participants gained either high or a moderate score, and no participant got a low score. On question 2 (Learning objective) and Q6 (Role in disciplining), eight participants got a high or moderate score, and on Q4 (teachers' role in facilitating the group activity by directing students clearly), seven participants got a high or moderate score. This indicates that on all lesson-plan components a majority of the participants demonstrated a high, or at least a moderate level of proficiency.

Table 6: Participant wise ranking per question in the planning templates

		Mean Percentage Score per Question									
No	Lesson Plan components	**Meera**	**Harsha**	**Varuna**	**Sarojini**	**Avnita**	**Shubhlaxmi**	**Mital**	**Chanda**	**Sanjana**	**Mean**
1	Grouping	92	100	100	50	92	90	100	96	100	91
2	Learning objective	67	98	98	48	67	65	98	17	63	69
3	Learning activity	58	83	82	49	58	58	79	75	83	70
4	Teacher's role in facilitating learning in groups	71	83	85	15	71	61	65	19	29	56
5		82	94	82	38	82	74	90	57	67	74
6	Teachers' role in fostering discipline.	79	65	58	13	79	43	44	44	53	53
7	Conclusion	81	100	67	56	81	72	78	63	82	75

(Ranking: dark grey = high, medium grey = moderate, light grey = low)

In what ways did the para-teachers' enactment reflect a well-structured learner-centered approach?

During interviews, para-teachers reflected that compared to the pre-professional development period, they had brought in many changes in their own role as teachers especially in terms of structuring and grouping their classes, learning activities they used and how they facilitated group work. Para-teachers also shared their perceptions about their students' role and engagement as a result of the changes they had introduced in their own role.

Perceptions about their role in facilitating the class:
One of the main changes the participants reported was regarding a shift grouping based on the current attainment of the students. As one participant said,
"Earlier we used to attend every child one by one and just pick any topic from the school syllabus, or we used to sit with the whole class and generalize without taking individual levels into consideration. But now we follow a group approach, and I feel that by doing that, the individual as well as group learning needs can be addressed"

Participants also expressed that they now were able to teach in a '*practical way*' and use real life examples and questions. One participant shared,
"First I just used to explain a concept to the child by repeating what was written in a text book. Now I also understand that when an activity involves children practically in doing something, they understand it better. So now I ensure that I use practical and experiential activities, it takes time to prepare for them, but I do it".
Participants also shared that they used material more appropriately now during the activity. Some of them shared that they found it difficult to make sure that each group had enough to do because the material was not sufficient at times.

The participants shared about their role in facilitating the group activity.
"Earlier I made groups, but if I went from one group to the other, the previous group would start talking or distracting others, but now I make sure I task the group well before I shift to the next group".

Four participants stressed that they still had trouble with ensuring that all groups were appropriately engaged, and that the problem was accentuated when they ran out of material, or that they did not understand how to break down the activity for the students.

The participants shared different practices they tried to adopt for behavior management and for ensuring that the groups work independently. Some participants appointed group leaders who helped their students follow classroom norms and *"*pay attention to work*".* Some of them said that they distributed the participative children across groups and showed them how to engage other group children in the learning process, like ask, coax others to share, or help them when they need help. All of them shared that they helped different groups decide their own norms of *"do's and don'ts"*
Others shared that they let children take responsibility for parts of the learning tasks like,
"Ensuring every child gets to use the material in the group, the material is used properly without getting damaged".

Participants' perception about students' role in the class:
All participants shared that their students were much more punctual than before.
Two participants shared,
"My students are more regular, and more motivated,, even those who were not interested in studying earlier"

"Initially children would bunk classes but later they realized that if he didn't come for one day then he will be left behind other children in the group so they regularly came"

Others shared that they found their students more engaged and active in the learning process than earlier. They gave examples for this, such as,
"Children concentrated more on the task because the activity is engaging, and we don't have to worry about disciplining so much any more. Earlier children were hesitant in giving answers. Now, they are more attuned to responding to the questions."
"C*hildren are better involved they understand better, and secondly because the activity is engaging , we need to worry less about discipline, they are on their own more well behaved"*

"Because of group work, students are more involved with each other than with me"

Participants also shared that their students had learnt to work in groups and cooperate with each other better than earlier.

"The grouping is very simple. It took only one week for children to get used to sitting in their own groups. Now they sit in their groups on their own. "

"Earlier, sharing of material, activity, expression, doing work together was not there. Due to the group processes, the children learnt to share, express and not fight and the class was less chaotic during this period"

"Earlier students were not bothered if the other child has not come to the class. In this case, because the group work will get affected, they make sure no one is absent and go and call students from their homes"

Classroom observations also provided information on teachers' and students' roles. Mean percentage scores were obtained for different phases of the lesson body (Table 7), preparation and introduction of the lesson, teachers' role in facilitating learning activity, learner engagement during learning activity, and lesson conclusion. All participants gained a high or moderate score in lesson preparation, and eight participants, in the introduction of the lesson. For teachers' role in facilitating the group activity as well, majority, that is seven participants ranked high or moderate. On the student engagement, the number of participants gaining high and moderate score was still at a majority of five. No participant scored high in the concluding section, and a majority scored low.
In terms of total participant score, the strongest aspects of the enactment process were the

introduction of the main lesson and the teachers' role in the activity, and the conclusion was the weakest.

Table 7: Participant wise ranking for different phases of the lesson body

	Mean Percentage Scores for Different Stages of the Lesson				
Participants	**Preparation for the class**	**Introduction of the main lesson**	**Teachers' role in facilitating group activity**	**Students' role during group activity**	**Conclusion of the lesson**
Meera	54	82	98	100	35
Harsha	67	64	95	100	40
Varuna	58	64	66	60	20%
Sarojini	58	54	32	23	0
Avnita	54	79	82	98	45
Shubhlaxmi	67	36	23	30	10
Mital	67	54	59	28	35
Chanda	67	57	48	30	15
Sanjana	63	82	73	58	10
Total Mean Perc. Score	**62**	**64**	**64**	**58**	**23**

(Ranking: dark grey = high, medium grey = moderate, light grey = low)

Enactment over four weeks (Table 8) reflected that participants had progressed in their enactment from the first to the third and fourth week. Three participants started in the high category itself and retained that in the fourth week. Five participants started in the low category, of which three were ranked in the high category and two scored in the moderate category by the fourth week. Two participants' scores fluctuated in the first two weeks, that is, they scored less in the second week as compared to the first week, but stabilized in the third and fourth week. Only one participant had a fluctuating score in all the four weeks, and showed no stability. In the fourth week, six participants ranked in the high category and three in the moderate. There was none in the lowest category.

Table 8 Participant wise ranking, per week

		Mean Perc. Score for Observations Over One Month			
Participants		**1**	**2**	**3**	**4**
	Meera	82	74	82	85
	Harsha	77	77	82	82
Cluster 1	**Varuna**	26	54	72	77
	Sarojini	28	15	44	44
Cluster 2	**Avnita**	74	64	85	85

	Shubhlaxmi	23	21	41	44
	Mital	36	31	67	59
	Chanda	33	23	46	72
Cluster 3	**Sanjana**	23	64	77	79
Total mean. perc score		**45**	**47**	**66**	**69**

(Ranking: dark grey = high, medium grey = moderate, light grey = low)

What other kinds of professional development gains did participants experience? This was understood through interviews with participants and cluster-heads. All participants shared that they experienced greater confidence, better organizational skills in terms of streamlining their work and lastly, greater ability to learn on their own as well as collaborate with their peers.

Participants gave examples of their enactment experiences to demonstrate greater confidence in subject matter as well as their teaching skills.
For instance, one of them shared that,
"I feel more confident about my science knowledge, because I have been able to answer many more questions from students than before"
Another participant shared,
"I can see that my students know more than what they know when they first came to class, and that gives me confidence in my teaching"

Others drew confidence from higher level of learner engagement in the process. As one of them shared,
"earlier I used to feel stressed, now the biggest difference is that my students and I both enjoy the teaching learning process, I feel better because I know that I am adding value, earlier I did not feel sure of whether there was any contribution I made or not"

Commenting on how reflection activity was beneficial for her confidence, one participant shared,
"Reflecting on my class gives me a sense of completion and accomplishment"

Besides confidence, participants also shared how they had become much more skilled and conscientious about planning their tasks and time efficiently.
"The personal planning exercise has helped me to see my non teaching hours for a week together. No longer I have to wonder each day what to do after class. I know which days to go for fee collection, when to plan and review lessons and when to practice subject matter"

Another participant asserted that,
"I take my work planning very seriously now, and I take care not to waste my time"

Several participants shared that better organizational skills gave them a feeling of well being. For instance, one participant shared her feelings by saying,

"Earlier I used to work without any plan for the day but I really like the personal work plan tool very much and I plan each day now"

Finally, each participant shared extensively how as a result of the daily core activities, they took more charge of their own learning and also appreciated the value of collaborating.
"Earlier I was dependent. Now I am more confident of studying material and solve my own doubts instead of always depending on others"

One more participant reflected on her and her peers' approach and commented,
"I think all of us have learnt to ask questions when we have doubts"

Several participants expressed that they took much closer stock of their own progress for instance, a participant shared,
"At any point I knew that I had to focus on improving one specific aspect, at one point it was how I group my students, at another time it was a specific concept that I was weak at or a specific learning activity"

Participants also shared the importance of collaborating for their own learning. Using the example of the weekly reflection, one of the participants said,
"Working together is useful, because we had to justify our work, could review each others' work and get new ideas about our plans for others"

Similarly another participant shared that,
"Not only do we feel supported when we plan and reflect together everyday, but certain things we can only understand through discussion. I only learnt about how harmful very stringent classroom norms can be when I heard the example of my colleague and I also got more ideas from them on how I can use more positive ways of reinforcing student behaviors"

Participants expressed that they took much more individual and collective initiative because they saw all problems as common problems.
For instance,
"We took turns to solve different technical problems. For example, if material was missing for one concept, one of us would volunteer to develop it and share it with everyone"

They also developed different strategies at cluster levels for addressing their preparation. For instance, in two clusters, they shared how they had formed task groups for studying subject matter. In one of the clusters they improvised the weekly reflection when necessary for organizing spontaneous demonstrations for difficult activities by peers who were better. In all the three clusters, they shared about having come up with a list of desirable ideas that had been accumulated during discussions on different areas like, strategies to reinforce norms, types of questions to ask students for assessing their learning or interesting introductory activities for their class.

When interviewed, the cluster-heads shared that the most important change in the teachers in their clusters was that they were more inspired and motivated to learn. One cluster head shared that teachers in her cluster were much more conscientious about being thorough in their work. She shared,
"Earlier, if a teacher did not know something, she would do nothing about it, just go to class and teach whatever she could, but now they read up, discuss with each other, practice it and then go to class, and even come back and share what they did well and did not."

Another cluster head shared they took the different learning interventions very seriously. She expressed,
"Earlier it was very common for teachers to not even open the materials and study them, because they waited for someone to come and train them. Now they don't wait, but solve it as much as possible amongst themselves and feel less dependent on the management team to organize workshops"

The third cluster head shared a similar sentiment indicating that teachers in her cluster were more self motivated about improving their teaching, For instance she expressed that,
"Before, if we asked them to refer to something, they would look at one idea, and give up. But now they themselves look for three or four different ideas when there is a doubt; they want deeper understanding of it, because they feel good when they can go and share it in the class"

What role did the (changed) organizational conditions play in supporting and/or hindering the PD process*?*

Both cluster-heads and participants provided insights to this question by discussing in interviews their perceptions about organizational changes. Both groups expressed that they experienced a positive change in the attitude of the organization as compared to the past. The para-teachers shared that the following were the most important changes that the organization had introduced.

- Not to enroll a new student as soon as an old student dropped out, as it gave their classes more stability
- To enroll students for a longer period, instead of one month, as it gave them longer contact with the students
- To enroll only students up to grade 4 which they felt more confident about in terms of subject matter knowledge and a manageable variety in student learning needs
- To promise parents of students, only what was feasible to be taught in the given period
- The time and support provided at the cluster level for improving teaching

Cluster-heads also reflected on the same question, and expressed that the organization played a role in supporting instruction which was most important for them. For instance they shared that,

"Earlier the management and we had little role in the teaching learning matters. All we ever spoke about was how much fees was collected and what marketing strategies we would employ."

Another cluster head shared that they as well as the teachers had felt more reassured by the organizational attitude. She reflected that,
"We felt supported when we were reassured that even if the revenue reduces, we should not worry, and we should focus on improving our teaching learning quality. That gave us the confidence that we did not have the pressure to just enroll any child in the class just because he was willing to pay fees. We could focus on thinking about what was desirable for the classroom environment."

The third cluster head shared her feelings saying,
"Now I feel that both revenue and learning quality have equal importance. Earlier all the organization seemed to be bothered about is how many more children are enrolled in class, and not about the learning quality, now I feel they are sensitive to our needs."

The cluster-heads reported that their own involvement in supporting para-teacher learning was a new aspect introduced that had changed their outlook substantially. They shared that they realized that they had a leadership role in supporting the teaching learning process and they were not merely supervisors.
One cluster head shared,
"As a leader I want to make extra efforts to coach them, I just feel a pressing need to contribute …"
The second cluster head shared that,
"Earlier I would go to their class, but really not care about the quality of teaching. Now I sit with them after their class to discuss my observations, and whenever it is possible, I even prepare my self in the subject matter of the class that I am going to see"

The third cluster head also reported similar changes in her attitude.
She admitted,
"Earlier, if I did not know something, I used to hide, but now I accept that I don't know and I even learn from them. I pay more attention during workshops to improve my own knowledge, because I want to be a proper support to them. I also want to start teaching myself again"

The cluster-heads also shared they had learnt how to improve their ability to support the teachers. The main shift shared by them was a change from 'judging the work of the teachers to finding ways of helping them showcase their work to their peers as well as learn from their peers" For instance, one of them shared,
"In the initial stages, I only used to pick the weak areas and criticize. Then I learnt to point out both strong and weak areas. But now I go one step further, I don't just tell them whether t is strong or weak, I also get other teachers to demonstrate how they have done it when I find a teacher struggling with something".

CONCLUSION

This paper described research conducted alongside the second phase of Maitri's PD program for para-teachers, in which, along with a regular routine of planning, enactment and reflection, supportive strategies and essential organizational changes were introduced to facilitate the institutionalization of the PD cycle. The study may be characterized as a formative evaluation, which investigated para-teachers' lesson plan quality and enactment skills and additional professional growth as a result of adopting the cyclic routine. Additionally, important organizational changes were introduced which would make it possible for the cyclic routine to be sustainable. The study also focused on the organizational changes that contributed towards the PD of the para-teachers.

The findings from this study indicate that the PD program, which integrated para-teacher learning with everyday work, led to successful adoption of systematic, learner-centered, lesson planning and enactment practices. While lesson plan reviews and observations support the conclusion that adoption had been achieved, self-reports provided insights into factors that could have fostered increased adoption. Para-teachers distinguished new practices that they had adopted in their enactment which were lacking previously, including (a) grouping students; (b) planning learning activities according to the learners' level; (c) using practical learning activities, questions and examples; (d) strategies to keep multiple groups engaged in group work; and (e) eliciting student participation in maintaining discipline. The self-reports indicate that these practices were new for the para-teachers, and reflect a greater learner-centered orientation than their previous practice which was characterized by rote-based teaching. This helps to conclude that when new teaching ideas and practices are introduced, these need to be carefully chosen by keeping in mind the teachers' zone of proximal development. Especially during early stages of transition from traditional to learner-centered teaching, it contributes to high adoption. Again, self-reports establish that participants experienced qualitative improvements in their lesson planning and enactment, compared to prior practice. This reinforces the conclusion that realistically chosen innovations allowed para-teachers to not only implement the ideas readily, but also to see immediate differences within a relatively short gestation period. This could be an important factor to lead to a strong adoption of the newly introduced ideas.

The study also helps to conclude that the PD activities did lead to greater empowerment and collaborative relationships of teachers. First, the para-teachers expressed greater self-confidence. Participants' self-reports speak for how reflection activities helped build confidence as they learnt to take cognizance of the developments in their enactment, both in terms of their role as well as student responses. Second, by integrating a task planner into the planning tools of the participants, the para-teachers also learned to take responsibility for creating work-plans and making time to plan and reflect for their lessons. Third, para-teachers took more ownership for their learning and valued collaboration. Such ownership is enabled when learning activities are designed to focus the attention of the teachers to immediate instructional matters, and yet allow them the flexibility to choose and solve instructional problems in the way best suitable for the classrooms. These professional growth benefits that participants experienced help to

conclude that PD of the teachers does not just include instructional competencies, but also related competencies like collaboration and ownership. Moreover, these two types of competencies feed each other.

Lastly, from para-teacher and cluster head perceptions about the organizational changes, the study helps to conclude that organizational changes are important for the effects of the core and supportive strategies to flourish. The organizational changes were important because new policy changes like redefinition of program objectives, enrolment criteria and new resources of time and cluster-head support were interpreted as a sign of greater sensitivity on the part of management towards local needs. This helped to develop a more secure atmosphere within which para-teachers and cluster-heads felt confident of dividing their attention suitably between fee generation activities and teaching learning concerns. But more importantly, the study also brings out the importance of the manner in which the organizational changes are introduced. Cluster-heads reports indicate the importance of their roles in designing and implementing the professional learning activities to influence the priority they gave to instructional matters, and how they changed from viewing themselves as administrators to coaches. Since one of the key organizational changes was to provide leadership support at the cluster level, the cluster-heads ownership for para-teacher learning was necessary. This was enhanced by giving them a lead role in identifying critical changes needed, like the enrolment policy. Finally, the reports of para-teachers led to an important conclusion: that cluster-heads learning about supporting teachers does not need to precede teachers' learning. In fact, this study clearly shows that cluster-heads abilities to support para-teachers grew experientially during their coaching efforts, thus indicating that para-teachers' and cluster-heads' learning took place interactively.

DISCUSSION

The study shows at that over a relatively short period of time, para-teachers, who were untrained in basic teaching and learner-centered skills, were able to cultivate a learner-centered orientation in lesson planning and enactment; and to successfully transfer these skills from the pilot program focusing on art during the less stressful summertime to academic subjects, during the busier realities of the regular school term. This was due, in part, to the selection of the PD content and processes which were chosen realistically and within their zone of proximal development. This is important because changes that are too demanding may cause failures. On the other hand, simple changes, though successfully implemented, may seem trivial or may not make much of a difference (Thijs, 1999). Here, strategies like using group work, using practical activities, and using questions were some of the approaches chosen as new but realistic learner-centered aspects. In a study conducted in Namibia, Sullivan (2004), asserted the need for selecting simple activities to acquire learner-centered skills which would begin to lead teachers away from traditional approaches. Such a 'stepping stone' approach may not yield ideal learner-centered approaches at first sight, but can potentially lead to a successful development of teachers' capacities to implement learner-centered approaches in the future(Sullivan, 2004). This thinking aligns with that of Rogan and Grayson (2003), who advocate the importance of finding the 'zone of feasible innovation' that proceeds just ahead of the existing practice. The learner-centered aspects as well as the PD processes

employed in this study, constitute this zone of feasible innovation for untrained teachers who just started a transition from completely traditional teacher directed teaching to learner-centered teaching.

Further, this study shows that participants experienced greater self-confidence and the ability to regulate their own learning. Hence, they moved towards discovering a collaborative culture which was formally organized and regulated, but emerged spontaneously (Hargreaves, 1992). Such meta-cognitive skills are considered important in professional development as resources that foster learning (Ball & Cohen, 1999; Darling-Hammond, 2006). Our study highlights two things, that professional development can result in such personal regulative resources, and that para-teachers who are used to a traditional learning culture, need scaffolds to develop these resources. In this study, the scaffolding was provided by processes with two main characteristics: teacher-driven and flexible routine. Processes that invite para-teachers to be involved in designing hands-on activities that are of immediate use in the classroom and make teachers believe that they are changing and learning (c.f. Daloglu, 2004). Routines were structured but not rigid. For instance, the tools and daily routines, although structured, were flexible, so that they allowed and facilitated teachers to improvise and think beyond the teacher guides, wherever possible. For Ellestrom (2001), such factors like the learning potential of the task in terms of complexity, variety and scope of action allowed, and the type and degree of formalization processes, are characteristics of work place learning. In this study, there was high formalization of some work processes like daily planning and reflection. However, the complexity, variety and scope of the work were not stifled, as the tools allowed para-teachers to think flexibly, and para-teachers had to use the tools to work with new concepts everyday.

In addition, this study emphasizes that all innovative curricula require organizational changes in order to be implemented (Fullan & Pomfret, 1977). This is even more applicable when organizations are in disarray. The first step in implementing innovation would be to restore order and discipline (Rogan & Grayson, 2003). The organizational changes in this study included key policy changes determined by cluster-heads and teachers, and the active role of cluster-heads in designing and supporting the tools and interventions for para-teachers' learning. The policy changes were made with an emphasis on consistency and their coherence with the circumstances of the teacher (Darling-Hammond & McLaughlin, 1999). This yielded a high level of adoption of the core routine and supportive strategies.

The study also highlights the fact that appropriate decisions of what type of organizational conditions are required, and what type of professional learning activities are relevant, can be most effective when these decisions are guided by paying close attention to front line practice (Gallucci, 2008; Silins & Mulfort, 2002) and by involving the stakeholders in the decision making process. Finally, the study witnessed cluster-heads participating in supporting the learning of the para-teachers, and their ability to provide support to the para-teachers improving in return (Gallucci, 2008; Silins & Mulfort, 2002). Thus, learning of teachers does not follow the learning of teacher leaders

in a linear fashion. Rather, much of it evolves in the context of efforts to help teachers learn (Spillaine & Thompson, 1997).

This article speaks to researchers and practitioners who are studying and creating professional development for para-teachers working in under-resourced environments. It demonstrates that appropriate preparation for para-teachers through adequate professional development can lead to positive learning experiences and new skills. It also emphasizes the importance of critically assessing (and where needed, changing) the organizational conditions to form a suitable environment in which the professional development may thrive. This approach may address criticism about the low level of training of these highly-motivated, much-needed teachers. It also highlights several characteristics of a para-teacher professional development program which may prove useful in other settings.

References

Ball, D., & Cohen, D. (1999). Developing practice, developing practitioners. In G. Sykes, & L. Darling-Hammond (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3-32). San Francisco: Jossey-Bass.

Daloglu, A. (2004). A professional development program for primary school English language teachers in Turkey: Designing a materials bank. *International Journal of Educational Development, 24*(6), 677.

Darling-Hammond, L. (2006). *Powerful teacher education*. San Fracisco: Jossey-Bass.

Darling-Hammond, L., & McLaughlin, M. W. (1999). *Investing in teaching as a learning profession: Policy problems and prospects*. San-Fransico: Jossey-Bass Inc.

Desai, V. (2003). Emerging staffing issues in grassroots urban NGOs: The case of Mumbai. *Global Built Environment Review, 3*(1).

Ellström, P. (2001). Integrating learning and work: Problems and prospects. *Human Resource Development Quarterly, 12*(4), 421-435.

Fullan, M., & Pomfret, A. (1977). Research on curriculum and instruction implementation. *Review of Educational Research*.

Gallucci, C. (2008). District wide instructional reform: Using sociocultural theory to lihnk professional learning and organizational support. *American Journal of Education, 114*.

Hargreaves, A. (1992). Cultures of teaching: A focus for change. In A. F. Hargreaves & M. Fullan (Ed.), *Understanding teacher development* (pp. 216-240). London: Cassel.

Jagannathan, S. (2000). *The role of nongovernmental organizations in primary education: A study of six NGOs in India*

King, M. B. (2001). Building school capacity through professional development: Conceptual and empirical considerations. *The International Journal of Educational Management, 15*(2), 86.

Klein, F. (1991). *A conceptual framework for curriculum decision making*. Albany: State University of New York Press.

Merriam, S. B. (1998). *Qualitative research and case study applications in education.* San Fransisco: Jossey-Bass.

Osullivan, M. (2004). The reconceptualisation of learner-centred approaches: A Namibian case study. *International Journal of Educational Development, 24*(6), 585.

Pandey, S. (2006). *Para teacher scheme and quality education for all in India : The policy perspectives and challenges for school effectiveness*. New Delhi: National Council for Educational Research and Training.

Raval, H., Mckenney, S., & Pieters, J. (accepted for publication). A conceptual model for supporting para-teacher learning in an Indian NGO. *Studies in Continuing Education.*

Raval, H., Mckenney, S., & Pieters, J. (under review-a). Professional learning requirements of para-teachers in an Indian Ngo and contextual factors influencing their learning.

Raval, H., Mckenney, S., & Pieters, J. (under review-b). Supporting para-teachers by regularizing planning, enactment and reflection of daily lessons.

Rogan, J., & Grayson, D. (2003). Toward a theory of curriculum implementation with particular reference to science education in developing countries. *International Journal of Science Education, 25*(10), 1171-1204.

Silins, H., & Mulfort, B. (2002). Schools as learning organizations. *Journal of Educational Adminstration, 40*(5).

Spillaine, J., & Thompson, C. (1997). Reconstructing conceptions of local capacity: The local education agency's capacity for ambitious instructional reform. *Educational Evaluation and Policy Analysis, 19*(2).

Sullivan, M. (2004). The reconceptualisation of learner-centred approaches: A Namibian case study. *International Journal of Educational Development, 24*(6), 585.

Thijs, A. (1999). *Supporting science curriculum reform in Botswana: The potential of peer coaching.* University of Twente, Enschede.

van den Akker, J. (2003). Curriculum perspectives: An introduction. In J. van den Akker, W. Kuiper, & U. Hameyer (Eds.), *Curriculum trends and perspectives*. Dordrecht: Kluwer Academic Publishers.